

REMARKS

These amendments and remarks are being filed in response to the Office Action dated December 27, 2004. For the following reasons, this application should be allowed and the application passed to issue.

Care has been taken to avoid the introduction of new matter by this amendment. The claims, specification, and drawings have been amended to change "voice recognition" to -- speech recognition-- in accordance with the Examiner's recommendation. In addition, informalities, such as misspellings have been corrected in the specification and claims. New independent claim 10 is supported by originally filed claims 1 and 4 and the specification, including the first and second embodiments. The specification, including the first and second embodiments, and originally filed claims 4 and 8 provide support for new independent claim 16. Support for new independent claim 17 is found in the first and second embodiments of the specification and originally filed claims 4 and 9. New claims 11-15 are supported by originally filed claims 2, 3, and 5-7, respectively.

Claims 10-17 are pending in this application. Claims 1-9 have been rejected. Claims 1-9 have been canceled. Claims 10-17 are newly added.

Drawings

The drawings have been amended to correct informalities and misspellings. Replacement Sheets of Figures 3, 4, 6, 8, 9, 12, and 13 are attached.

Specification

The title of the invention was objected to as not being descriptive. This objection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The title has been changed to more descriptive title in this response.

Because of the extensive amendments to the specification required to change “voice recognition” to --speech recognition--, a substitute specification is attached to this response. The substitute specification contains no new matter.

Claim Rejections Under 35 U.S.C. § 112

The disclosure and claims were objected to because the term “voice recognition” is allegedly misused as the term “speech recognition.” This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The term “voice recognition” has been changed to --speech recognition-- throughout the specification and claims. As recognized by the Examiner and as supported throughout the instant specification, “voice recognition” as used in the instant specification should be “speech recognition.”

Claim Rejections Under 35 U.S.C. § 103

Claims 1-4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ittycheriah et al. (U.S. Patent No. 6,185,530) in view of Bocchieri et al. (U.S. Patent No. 5,329,608). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the present invention as claimed and the cited prior art.

Claims 1-9 have been canceled, however, new claim 10 would correspond to an amended combination of claims 1 and 4. Therefore, claim 10 will be distinguished over the cited prior art.

An aspect of the present invention, per claim 10, is a speech recognition updatable system applied to a vehicle comprising a speech collecting device collecting a set of words spoken by a

driver. A storing section preliminarily stores a set of recognition words used for speech recognition and a set of operation patterns, associated with the recognition words, for an output device. A searching section searches a recognition word, which has the highest matching degree with a spoken word, from the set of recognition words. A mode setting section sets a registration mode for registering a new recognition word used for the speech recognition and an operation pattern associated with the new recognition word in the storing section. A communication unit communicates with a base station having a word database. An input device inputs various information for communicating with the base station via the communication unit. An operation setting section sets an operation pattern to a new recognition word on the basis of information obtained by the communication with the base station under the registration mode. A registering section registers the new recognition word and the operation pattern associated with the new recognition word set by the operation setting section in the storing section. A control section controls the output device on the basis of an operation pattern associated with a recognition word searched by the searching section. The searching section serves to search for the new recognition word stored in the storing section under the registration mode with higher priority than the set of recognition words stored preliminarily in the storing section.

The Examiner asserted that Bocchieri et al.¹ teach a verbal input providing section, a memory storing recognition words and interactive operational patterns, an output providing section, a new registration mode setting device, and an input device. The Examiner acknowledged Ittycheriah et al. do not teach a setting section to register new words. The Examiner averred that Bocchieri et al. teach a setting section. The Examiner further acknowledged that neither Ittycheriah et al. nor Bocchieri et al. teach using a registration section registering a resultant by a setting section. The Examiner, however, considered it obvious to use

¹ Apparently the Examiner intended to assert that Ittycheriah et al. teach the listed components not Bocchieri et al.

a Ittycheriah et al.'s updatable speech recognition system with a setting section in order for the user to set a mode for new words to be added to the database by registering or preprocessing the input data for user flexibility.

In addition, the Examiner acknowledged that Ittycheriah et al. do not teach calculating the highest matching degree with the verbal input from memory. However, the Examiner maintained that Bocchieri et al. teach the highest matching degree with the verbal input from memory. The Examiner concluded that it would have been obvious to use Ittycheriah et al.'s calculation inputted words with ambiguous existing words with Bocchieri et al.'s highest match degree calculation in order to prevent excess memory storage of words that are already in memory.

Ittycheriah et al. and Bocchieri et al., whether taken alone, or in combination, however, do not suggest the claimed speech recognition updatable system.

Claim 10 has been amended to include the limitations of claim 4, and the following additional limitations (L1) and (L2) to further distinguish between the present invention and the cited references:

(L1) the speech recognition updatable system of the instant invention is applied to a vehicle;

(L2) a control section for controlling an output device on the basis of an operation pattern associated with a recognition word searched by a searching section.

Furthermore, claims 1-3 and 5-9 have been rewritten as new claims 10-17 to further clarify the instant invention.

The speech recognition updatable system of claim 10 is applied to a vehicle. Therefore, the following features (F1) and (F2) are essential in this system:

(F1) the searching section of the present invention searches for a new recognition word stored in the storing section under the registration mode with "higher priority" than the set of recognition words stored preliminarily in the storing section;

(F2) the control section of the present invention controls the output device on the basis of an operation pattern associated with a recognition word searched by the searching section.

According to human engineering, a driver of a vehicle depends on visual information that is about 70% of total information necessary to recognize circumstances surrounding the vehicle while driving. To maintain safe driving, the driver must avoid situations where he is preoccupied with the operation of vehicular devices. To assist drivers in keeping their eyes on the road, a speech recognition system is applied to a vehicle according to the present invention.

Where a speech recognition system is applied to a vehicle, the following conditions (C1) and (C2) must be satisfied in order to maintain safe driving:

(C1) allow a driver to use commonly used arbitrary words in order to perform speech recognition;

(C2) control a vehicular device, in particular, an output device, using the result of the speech recognition. A particular issue is how to display information obtained by the performance of the speech recognition to the output device.

As noted by the Examiner, the cited references disclose speech recognition systems, in particular, mechanisms of speech recognition. However, the cited references disclose generalized speech recognition systems and do not suggest applying them to a vehicle. Thus, the cited references do not disclose or teach the above features (F1) and (F2). Therefore, even if an ordinary person skilled in the art would have been motivated to combine Ittycheriah et al. with Bocchieri et al. (and Applicants do not concede that there is sufficient motivation to combine the

references), the combination would not suggest the claimed speech recognition updatable system.

The dependent claims are allowable for at least the same reasons as independent claim 10 and further distinguish the claimed speech recognition updatable system.

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ittycheriah et al. in view of Bocchieri et al. and further in view of Theodore et al. (U.S. Patent No. 6,185,159) This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Claim 5 has been canceled and therefore this rejection is moot. However, new claim 13 would correspond to an amended claim 5.

Claim 13 is allowable for at least the same reasons as independent claim 10, as Theodore et al. do not cure the deficiencies of Ittycheriah et al. and Bocchieri et al., as discussed above.

Claims 6 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ittycheriah et al. in view of Bocchieri et al. and further in view of Van Kleeck et al. (U.S. Patent No. 5,890,122) This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Claims 6 and 7 have been canceled, however, new claims 14 and 15 would correspond to amended claims 6 and 7, respectively.

Claims 14 and 15 are allowable for at least the same reasons as independent claim 10 because Van Kleeck et al. do not cure the deficiencies of Ittycheriah et al. and Bocchieri et al., as discussed above.

Claims 14 and 15 are further distinguishable over the combination of Van Kleeck et al., Ittycheriah et al., and Bocchieri et al. As regards (C2) discussed above, claims 14 and 15

disclose a method for displaying information obtained by the performance of the speech recognition. In particular:

- (a) the setting section sets an icon to the new recognition word registered under the registration mode; and
- (b) the control section allows the output device to display a set of the new recognition word and an associated icon associated with the new recognition word on the basis of the operation pattern set by the operation setting section.

The new recognition word, corresponding to the words that are commonly used by the driver is represented by the icon. Under the safety measures described above, in regard to claim 10, this feature plays an important role for the second safety measure to maintain safe driving.

Thus, claims 14 and 15 are further distinguishable over the cited references.

New claims 16 and 17 would correspond to amended claims 8 and 9. It is noted that claims 8 and 9 were not subject to prior art rejections. Therefore, claims 16 and 17 are allowable as the informalities under 35 U.S.C. § 112 have been corrected.

In addition, although not necessary to overcome prior art rejections, claims 16 and 17 include additional limitations included in claim 10, as discussed above. Thus, it is clear that claims 16 and 17 are allowable and the additional limitations in claims 16 and 17 were not necessary for patentability.

In light of the above Amendment and Remarks, this application should be allowed and the case passed to issue. If there are any questions regarding these remarks or the application in general, a telephone call to the undersigned would be appreciated to expedite prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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Amendments to the Drawings:

Figures 3, 4, 6, 8, 9, 12, and 13 have been amended to correct informalities, such as, misspellings. For example, in Figures 3, 4, 8, and 9 "Base ball" has been changed to --Baseball--. In Figure 4, "MASSAGE" has been changed to --MESSAGE--. In Figure 6 "VOICE" has been changed to --SPEECH--. "DIRECTOR" has been changed to --DIRECTORY-- in Figures 12 and 13. New Replacement Sheets of Figures 3, 4, 6, 8, 9, 12, and 13 are attached to this response.